
DEATHS DUE TO DRUGS & POISONS: 1998

In 1998, there were 229 deaths due to drugs and poisons (excluding those due to carbon monoxide). This comprised approximately 15% of all deaths investigated (229/1507). The year 1998 had a 27% increase in drug caused deaths as compared to 1997 when there were 181 deaths. There were 218 drug caused deaths in 1996. The number of drug caused deaths for 1998 (229), which is the highest number ever recorded in King County. There were 145 opiate-caused deaths and sixty-two (70) cocaine-caused deaths. 1998 represented the highest number of opiate deaths ever recorded. Deaths due to drugs and poisons comprised 33% (229/686) of all suicides, accidents, and undetermined deaths combined. In 1999, the Public Health Department's Epidemiology Planning and Evaluation unit further analyzed the opiate deaths for trends. Most of the victims are male, white, and between 25 and 54 years of age. Multiple drug use was predominant.

Of the drug/poison deaths in 1998, 32% (73/229) were due to a single drug or poison, and 68% (156/229) were the result of drugs or poisons in combination. The year 1998 continued the trend of the majority of drug deaths being the result of multiple drug intoxication (72% in 1997, 66% in 1996, 68% in 1995). Table 9-3 displays the various categories of drugs that caused death in 1998. Because of their prevalence, ethanol, cocaine (a stimulant), and opiates (narcotic) are identified as separate drug categories. Other categories include anticonvulsants, anti-depressants, stimulants, analgesics, barbiturates, tranquilizers, anti-psychotics, narcotics (other than prescription opiates), sedatives, and other drugs/poisons.

The manners of suicide, accident and undetermined are represented in the deaths due to drugs and poisons. In 1998, there were no homicidal deaths in which drugs or poisons were the primary cause of the death, although the victim may have been under the influence of drugs at the time of the fatal incident. In 1986, two homicidal deaths occurred in King County caused by the ingestion of cyanide-contaminated extra-strength Excedrin capsules. In 1991, two cases of homicidal cyanide poisoning related to tampering of Sudafed capsules occurred outside of King County, in nearby western Washington counties.

The classification of undetermined manner is used when the circumstances surrounding the drug death does not allow clarification of whether the fatal intoxication was intentional, unintentional ("recreational"), or involved another person's actions. In the year 1998 there were 28 (28/59) deaths of undetermined manner attributed to drugs and poisons (including ethanol) compared to 3 (3/38) in 1997, and 21 in 1996 and 15 in 1995.

In 1998 there were 26 suicides attributed to drugs/poisons as compared to 23 in 1997.

There were 175 accidental overdoses of drugs/poisons in 1998 compared to 155 in 1997 and 162 in 1996. This is greater than three times the number of accidental drug deaths since 1991 when there were 48 deaths. In 1998 accidental drug deaths comprised 41% (175/426) of all accidents.

In 1998, 72% (165/229) of all deaths due to drugs and poisons involved cocaine or opiates¹. This compares with 72% (131/181) in 1997. Opiates were the most frequently implicated drug, either alone or in combination, comprising 65% (149/229) of the drug caused deaths. This compares to 1997 when there were 112 opiate-caused deaths, which was 62% (112/181) of all the drug deaths. Since 1985 when there were 30 opiate caused deaths, there has been a greater than 400% increase in the absolute number of deaths where opiates are implicated.

Cocaine, either alone or in combination with other drugs, was implicated in 31% (70/229) of the 1998 drug caused deaths. These 70 cocaine deaths compare with 62 cocaine deaths in 1997 and 72 in 1996. 1988 remains the only year when there were more cocaine (45) than opiate (43) deaths.

Of the combined drug intoxication's involving either cocaine or opiates, 40 involved both cocaine and opiates (and possibly other drugs). Use of opiates and cocaine predominated in accidental and undetermined drug caused deaths.

Ethanol (alcohol) is also a drug to be critically examined for its contribution to the circumstances surrounding death. In 1998, seven deaths, six accidental deaths and one undetermined death were attributed to acute ethanol intoxication where ethanol was the single substance used. There were 95 deaths where ethanol, in combination with other drugs, was the cause of death. Blood alcohol (ethanol) tests were performed in 62% (607/975) of non-natural deaths. Blood alcohol tests are only performed when death occurs within 24 hours of the initial injury/event. Positive blood alcohol levels were detected in 44% (269/607) of non-natural deaths where tests were performed.

Blood alcohol tests are performed on most persons who die within 24 hours of the incident. It should be noted that in many cases of traffic and homicide deaths, persons other than the decedent might have been involved who were under the influence of alcohol. The blood alcohol data is presented to show the levels of alcohol among those that died, but does not reflect the presence of alcohol among all parties involved.

¹When the term "opiates" is used in this section, the drug detected by analysis is morphine.

Table 9-1 Blood Alcohol Testing and Manner of Death

| TEST RESULTS | ACCIDENT | HOMICIDE | NATURAL | SUICIDE | TRAFFIC | UNDETERMINED | TOTAL |
|---------------------|----------|----------|---------|---------|---------|--------------|-------|
| Tested | 239 | 64 | 303 | 144 | 121 | 39 | 910 |
| <i>positive</i> | 93 | 17 | 65 | 50 | 31 | 13 | 269 |
| <i>negative</i> | 146 | 47 | 238 | 94 | 90 | 26 | 641 |
| Not tested | 188 | 26 | 124 | 57 | 78 | 20 | 493 |
| Total ²³ | 427 | 90 | 427 | 201 | 199 | 59 | 1403 |

Naturals certified by outside MD = 100

Total cases = 1503

Table 9-2 Blood Alcohol Testing as a Percentage by Manner

| TEST RESULTS | ACCIDENT | HOMICIDE | NATURAL | SUICIDE | TRAFFIC | UNDETERMINED | TOTAL |
|-----------------|----------|----------|---------|---------|---------|--------------|-------|
| Tested | 56 | 71 | 71 | 72 | 61 | 66 | 65 |
| <i>positive</i> | 22 | 19 | 15 | 25 | 16 | 22 | 19 |
| <i>negative</i> | 34 | 52 | 56 | 47 | 45 | 44 | 46 |
| Not tested | 44 | 29 | 29 | 28 | 39 | 34 | 35 |

² Total excludes 100 natural deaths certified by private attending physician.³On page 86 and 87 the following abbreviations were made: Prescription opiates, "Rx opiates", Tranquilizers, "tranquil", Antidepressants, "antidep", Barbiturates, "barbs" and Cardiac medicine, "Cardiac med. "

DRUGS INCLUDED IN CATEGORIES IN TABLE 9-3

ALCOHOL/ETHANOL

COCAINE (STIMULANT)

OPIATES/MORPHINE ASSOCIATED WITH DRUG ABUSE

PERSCRIPTION OPIATES: hydrocodone, codeine, propoxyphene, meperidine, methadone, pentazocine, sufentanil, fentanyl, oxycodone, acetomethadol, hydromorphone

ANTICONSULSANTS: phenytoin, carbamazepine, valproic acid, gabapentin

ANTI-DEPRESSANTS: sertraline, fluoxetine, doxepin, trazodone, amitriptyline, nortriptyline, imipramine, paroxetine, bupropion, clomipramine, venlafaxine

ANTI-HISTAMINES: doxylamine, dextromethorphan, chlorpheniramine, methocarbamol, naproxen

ANALGESICS: salicylate, acetaminophen, ibuprofen, tramadol, butalbital

BARBITURATES: secobarbital, phenobarbital

CARDIAC MEDICATIONS: verapamil, propranolol

TRANQUILIZERS: nordiazepam, meprobamate, chlordiazepoxide, diazepam, venlafaxine, diphenhydramine, oxazepam, buspirone, alprazolam, promethazine, temazepam, thioridazine, hydroxyine, carisoprodol, benzodiazepine, lorazepam, desipramine, flurazepam

STIMULANTS: methamphetamines

OTHER: lye

MUSCLE RELAXANT: cyclobenzaprine

ANESTHETIC AGENT: ketamine

Table 9-3 Drug/Poison Caused Deaths

| | MANNER | | | TOTAL |
|--|--------|---|---|-------|
| | A | S | U | |
| <u>SINGLE DRUGS/POISONS</u> | | | | |
| Alcohol | 6 | 0 | 1 | 7 |
| Cocaine | 7 | 0 | 0 | 7 |
| Opiates | 27 | 1 | 3 | 29 |
| Prescription Opiates | 9 | 1 | 2 | 12 |
| Antidepressants | 1 | 3 | 1 | 5 |
| Barbiturates | 0 | 2 | 0 | 2 |
| Anticonvulsants | 0 | 2 | 0 | 2 |
| Analgesics | 0 | 0 | 1 | 1 |
| Stimulants | 1 | 0 | 0 | 1 |
| Tranquilizers | 0 | 4 | 1 | 5 |
| <u>MULTIPLE DRUGS/POISONS</u> | | | | |
| Opiates, cocaine | 12 | 0 | 2 | 14 |
| Opiates, cocaine, tranquilizers, alcohol | 2 | 0 | 0 | 2 |
| Opiates, alcohol | 38 | 0 | 2 | 40 |
| Opiates, cocaine, alcohol | 18 | 0 | 1 | 19 |
| Opiates, cocaine, antidepressants, Rx opiates, muscle relaxant | 1 | 0 | 0 | 1 |
| Opiates, cocaine, anticonvulsants, alcohol | 1 | 0 | 0 | 1 |
| Opiates, cocaine, antidepressants | 3 | 0 | 0 | 3 |
| Opiates, cocaine, antidepressants, tranquilizers | 1 | 0 | 0 | 1 |
| Opiates, cocaine, antidepressants, tranquilizers, antihistamines | 1 | 0 | 0 | 1 |
| Opiates, cocaine, antidepressants, tranquilizers, Rx opiates | 1 | 0 | 0 | 1 |
| Opiates, cocaine, tranquilizers | 5 | 0 | 0 | 5 |
| Opiates, cocaine, tranquilizers, analgesics, alcohol | 1 | 0 | 0 | 1 |
| Opiates, cocaine, tranquilizers, alcohol, prescription opiates | 1 | 0 | 0 | 1 |
| Opiates, cocaine, tranquilizers, antidepressants, analgesics | 1 | 0 | 0 | 1 |

Continued on to next page.

| | MANNER | | | |
|---|--------|---|---|-------|
| | A | S | U | TOTAL |
| Opiates, cocaine, tranquil., antidep., Rx opiates, anesthetic agent | 1 | 0 | 0 | 1 |
| Opiates, analgesics, alcohol | 0 | 0 | 1 | 1 |
| Opiates, alcohol, tranquilizers | 3 | 0 | 0 | 3 |
| Opiates, alcohol, stimulants | 1 | 0 | 0 | 1 |
| Opiates, antidepressants | 2 | 0 | 0 | 2 |
| Opiates, antidepressants, tranquilizers | 1 | 0 | 0 | 1 |
| Opiates, antidep , tranquilizer, Rx opiate, muscle relaxant, barb | 0 | 0 | 1 | 1 |
| Opiates, antidepressants, tranquilizers, analgesics | 0 | 0 | 1 | 1 |
| Opiates, antidepressants, tranquilizers, antihistamines | 1 | 0 | 0 | 1 |
| Opiates, antidepressants, tranquilizers, alcohol | 1 | 0 | 1 | 2 |
| Opiates, antidepressants, tranquilizers, prescription opiates | 2 | 0 | 0 | 2 |
| Opiates, barbiturates, alcohol | 1 | 0 | 0 | 1 |
| Opiates, tranquilizers | 3 | 0 | 0 | 3 |
| Opiates, tranquilizers, barbiturates | 0 | 0 | 1 | 1 |
| Opiates, tranquilizers, barbiturates, antidepressants | 0 | 1 | 0 | 1 |
| Opiates, tranquilizers, alcohol | 0 | 1 | 1 | 2 |
| Opiates, prescription opiates | 1 | 0 | 1 | 2 |
| Opiates, antidepressants, alcohol | 1 | 0 | 0 | 1 |
| Cocaine, alcohol | 3 | 0 | 0 | 3 |
| Cocaine, alcohol, antidepressants, prescription opiates | 1 | 0 | 1 | 2 |
| Cocaine, antidepressants | 2 | 0 | 0 | 2 |
| Cocaine, prescription opiates | 2 | 0 | 0 | 2 |
| Cocaine, stimulants | 1 | 0 | 0 | 1 |
| Alcohol, analgesics | 0 | 1 | 0 | 1 |
| Alcohol, antidepressants | 1 | 2 | 1 | 4 |
| Alcohol, antidepressants, prescription opiates | 1 | 0 | 0 | 1 |
| Alcohol, barbiturates, anticonvulsants | 0 | 1 | 0 | 1 |
| Alcohol, tranquilizers | 0 | 0 | 1 | 1 |
| Antidepressants, analgesics, prescription opiates | 1 | 0 | 0 | 1 |
| Antidepressants, tranquilizers, anticonvulsants, alcohol | 0 | 1 | 0 | 1 |
| Antidepressants, tranquilizers, anticonvulsants, barbiturates | 0 | 0 | 1 | 1 |
| Antidepressants, tranquilizers, alcohol, cardiac medicine | 1 | 0 | 0 | 1 |
| Antidepressants, tranquilizers, prescription opiates | 0 | 1 | 1 | 2 |
| Antidepressants, analgesics, tranquilizers, prescription opiates | 0 | 0 | 1 | 1 |
| Antidepressants, prescription opiates | 3 | 0 | 1 | 4 |
| Tranquilizers, analgesics, antidepressants | 0 | 1 | 0 | 1 |
| Tranquilizers, prescription opiates | 1 | 1 | 0 | 2 |
| Tranquilizers, prescription opiates, analgesics, muscle relaxant | 0 | 1 | 0 | 1 |
| Analgesics, anticonvulsants | 0 | 1 | 0 | 1 |
| Prescription opiates, tranquil., cardiac med., analgesics, alcohol | 1 | 0 | 0 | 1 |
| Prescription opiates, tranquilizers, alcohol, muscle relaxant | 0 | 0 | 1 | 1 |
| Prescription opiates, alcohol | 2 | 1 | 0 | 3 |

Drug/Poison Caused Deaths: Summary

| | A | S | U | TOTAL |
|--|-----|----|----|-------|
| Total, Single Drug/Poison or Agent | 51 | 13 | 9 | 73 |
| Total, Multiple Drugs/Poisons in Combination | 124 | 13 | 19 | 156 |
| Total Drug/Poison Deaths, 1996 | 175 | 26 | 28 | 229 |

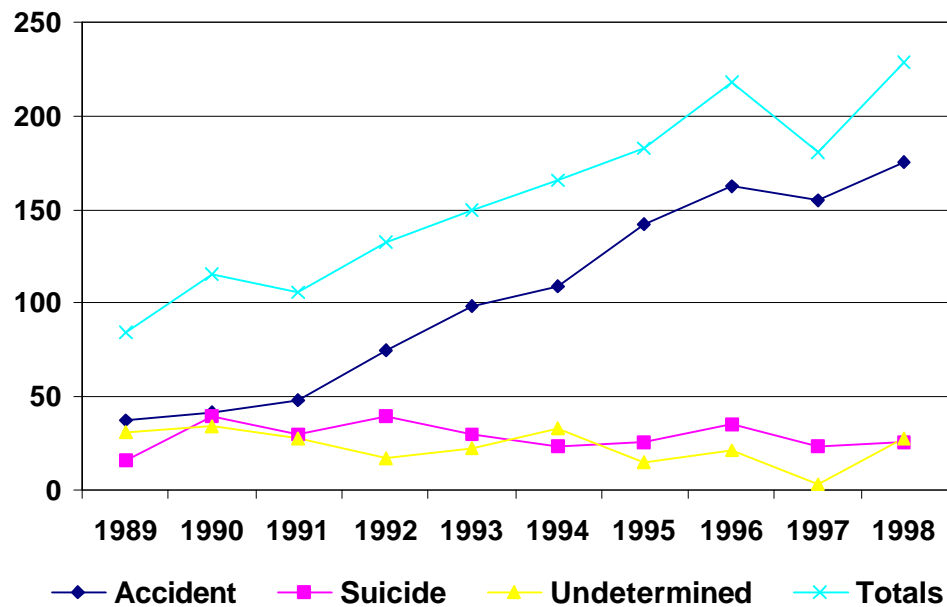
Graph 9-1 Drug/Poison Caused Deaths, 1991 – 1998**Comparison of Manner of Death among Drug/Poison Caused Deaths 1991-1998**

Table 9-4 Drug Caused Deaths Involving Cocaine, Opiates: 1991-1998

| DRUG COMBINATIONS FOUND | YEAR OF DEATH | | | | | | | |
|---|---------------|------|------|------|------|------|------|------|
| | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 |
| Cocaine alone | 12 | 7 | 5 | 14 | 6 | 14 | 7 | 7 |
| Cocaine and others without Opiates | 5 | 2 | 6 | 8 | 6 | 10 | 12 | 9 |
| Cocaine and Opiates, no others | 5 | 9 | 14 | 27 | 28 | 28 | 17 | 14 |
| Cocaine and Opiates, with others | 9 | 10 | 16 | 14 | 27 | 20 | 26 | 40 |
| Opiates and others without Cocaine | 23 | 30 | 42 | 22 | 45 | 56 | 43 | 64 |
| Opiates alone | 6 | 10 | 23 | 28 | 32 | 30 | 26 | 31 |
| Subtotal, Cocaine or Opiate Involved | 60 | 68 | 106 | 113 | 144 | 158 | 131 | 165 |
| Percentage, Cocaine or Opiates Involved | 57% | 52% | 71% | 68% | 79% | 72% | 72% | 72% |
| Subtotal, Cocaine Involved | 31 | 21 | 41 | 63 | 67 | 72 | 62 | 70 |
| Percentage, Cocaine Involved | 29% | 22% | 27% | 38% | 37% | 33% | 34% | 31% |
| Subtotal, Opiate Involved | 43 | 59 | 95 | 91 | 132 | 134 | 112 | 145 |
| Percentage, Opiates Involved | 41% | 45% | 63% | 55% | 72% | 61% | 62% | 65% |
| All Drug-Caused Deaths | 106 | 132 | 150 | 166 | 183 | 218 | 181 | 229 |
| All Deaths under KCME jurisdiction | 1351 | 1405 | 1481 | 1501 | 1504 | 1558 | 1491 | 1507 |

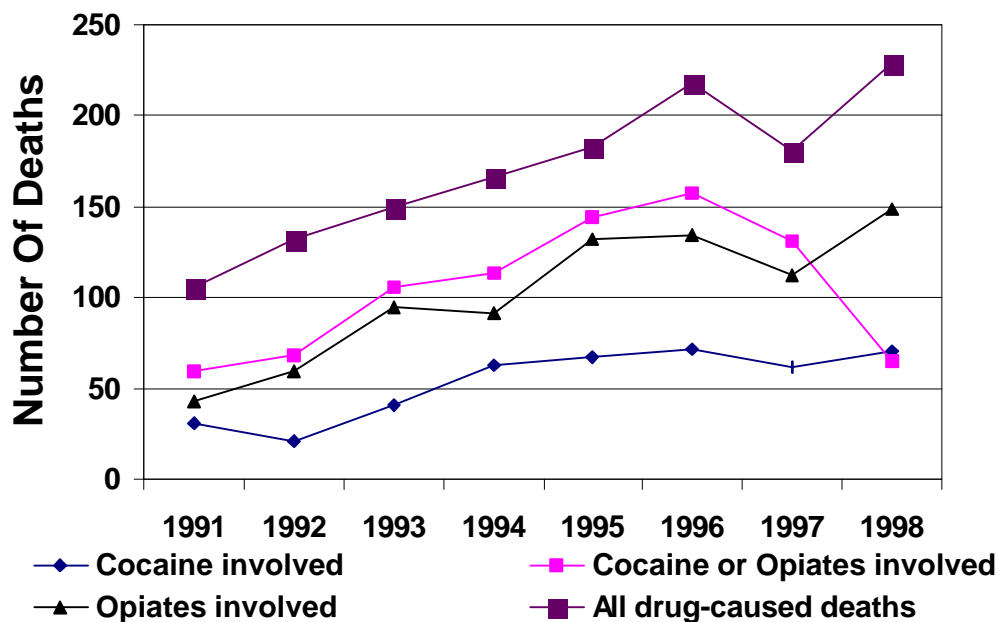
Graph 9-2 Drug Caused Deaths Involving Cocaine, Opiates: 1991 - 1998

Table 9-5 Drug and Poison Deaths and Age Group of the Decedent

| AGE GROUP (YEARS) | MANNER OF DEATH | | | SUB TOTAL | TOTAL |
|----------------------|-----------------|---------|--------------|--------------|-------|
| | ACCIDENT | SUICIDE | UNDETERMINED | | |
| 6-19 | 1 | 0 | 0 | | 1 |
| Male | 0 | 0 | 0 | 0 | |
| Female | 1 | 0 | 0 | 1 | |
| 20-29 | 18 | 2 | 2 | | 22 |
| Male | 15 | 2 | 1 | 18 | |
| Female | 3 | 0 | 1 | 4 | |
| 30-39 | 58 | 6 | 11 | | 75 |
| Male | 47 | 2 | 8 | 57 | |
| Female | 11 | 4 | 3 | 18 | |
| 40-49 | 84 | 11 | 11 | | 106 |
| Male | 68 | 4 | 6 | 78 | |
| Female | 16 | 7 | 5 | 28 | |
| 50-59 | 12 | 5 | 3 | | 20 |
| Male | 11 | 0 | 1 | 12 | |
| Female | 1 | 5 | 2 | 8 | |
| 60-69 | 2 | 1 | 0 | | 3 |
| Male | 0 | 1 | 0 | 1 | |
| Female | 2 | 0 | 0 | 2 | |
| 70-79 | 0 | 1 | 0 | | 1 |
| Male | 0 | 1 | 0 | 1 | |
| Female | 0 | 0 | 0 | 0 | |
| 80-89 | 0 | 0 | 1 | | 1 |
| Male | 0 | 0 | 0 | 0 | |
| Female | 0 | 0 | 1 | 1 | |
| 90+ | 0 | 0 | 0 | | 0 |
| Male | 0 | 0 | 0 | | |
| Female | 0 | 0 | 0 | | |
| Total | 175 | 26 | 28 | | 229 |

Graph 9-3 Drug and Poison Deaths and Age Group of the Decedent

